The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

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NORTHERN HEMISPHERE MAY 2014

Sky Calendar – May 2014

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1 **Moon near Aldebaran** (evening sky) at 18h UT.

4 **Moon near Jupiter** (evening sky) at 13h UT. Mag. –2.0.

6 **Eta Aquarid meteor shower peaks** at 7h UT. Active April 19 to May 28. Associated with Comet Halley. Very fast, bright meteors, up to 30 per hour. Favors skywatchers in the tropics and southern hemisphere observing a few hours before dawn.

6 **Moon near Beehive Cluster** (evening sky) at 9h UT.

6 **Moon at apogee** (farthest from Earth) at 10h UT (distance 404,318 km; angular size 29.6').

7 **First Quarter Moon** at 3:16 UT.

8 **Moon near Regulus** (evening sky) at 7h UT.

10 **Astronomy Day 2014** is today! Astronomy clubs, planetariums, observatories, and science museums will offer a variety of public activities.

10 **Saturn at opposition** (opposite the Sun) at 18h UT. The ringed planet is at its brightest (mag. +0.1) and closest all year (disk diameter 19"). Saturn's rings appear spectacular even in a small telescope.

11 **Moon near Mars** (evening sky) at 12h UT.

12 **Moon near Spica** (evening sky) at 14h UT.

14 **Moon very near Saturn** (175° from Sun, midnight sky) at 12h UT. Mag. +0.1. Occultation visible from Australia and New Zealand.

14 **Full Moon** at 19:18 UT.

15 **Moon near Antares** (morning sky) at 22h UT.

18 **Moon at perigee** (closest to Earth) at 12h UT (367,102 km; angular size 32.5').

21 **Last Quarter Moon** at 12:59 UT.

25 **Mercury at greatest elongation**, 23° east of Sun (evening sky) at 7h UT. Mag. +0.5.

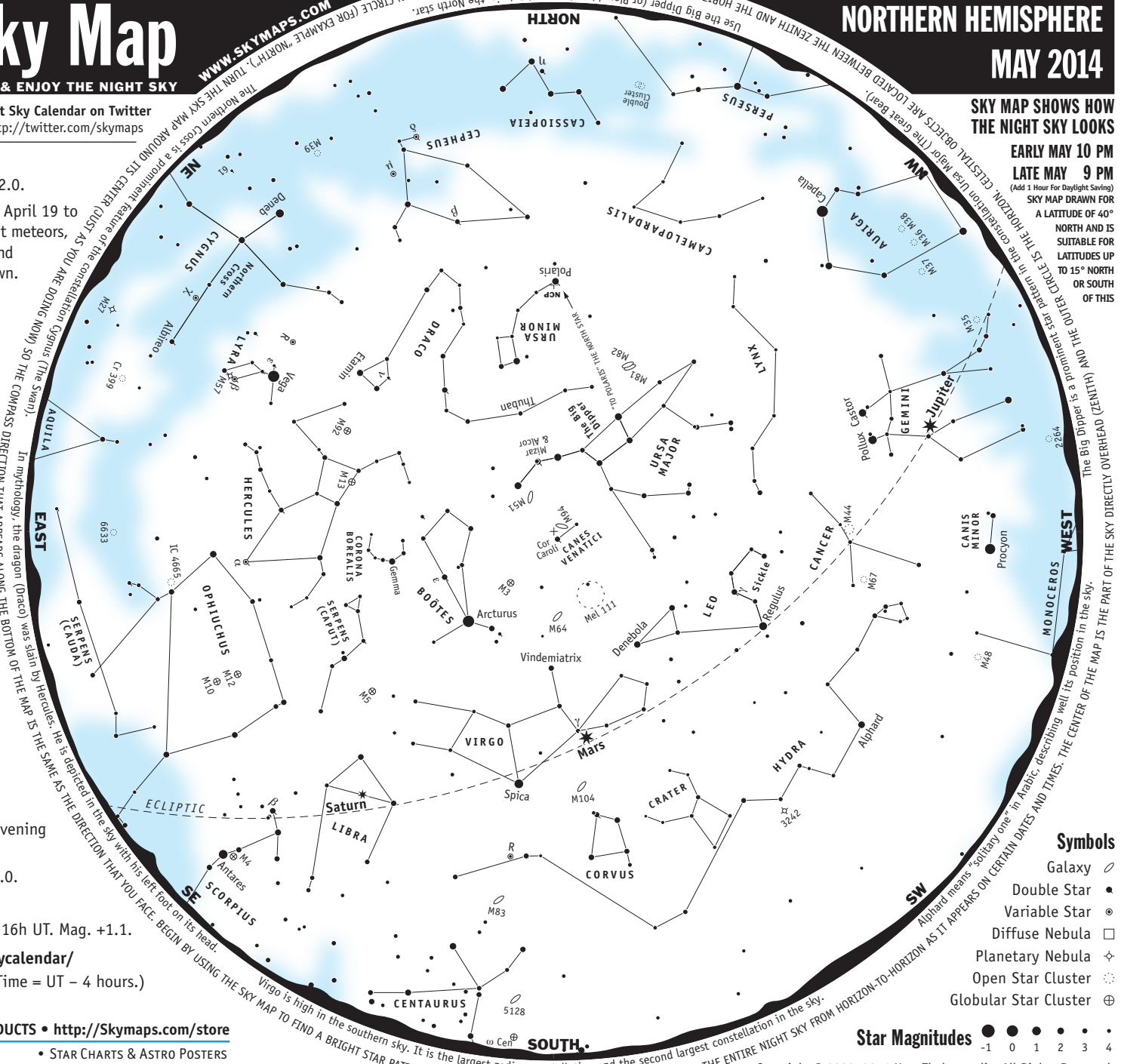
25 **Moon near Venus** (morning sky) at 15h UT. Mag. –4.0.

28 **New Moon** at 18:42 UT. Start of lunation 1131.

30 **Moon near Mercury** (22° from Sun, evening sky) at 16h UT. Mag. +1.1.

More sky events and links at http://Skymaps.com/skycalendar/

All times in Universal Time (UT). (USA Eastern Summer Time = UT – 4 hours.)



In mythology, the dragon (Draco) was slain by Hercules. He is depicted in the sky with his left foot on its head.

The Big Dipper is a prominent star pattern in the constellation Ursa Major (The Great Bear). CELESTIAL OBJECTS ARE LOCATED BETWEEN THE ZENITH AND THE HORIZON. COMPASS DIRECTIONS ARE INDICATED ALONG THE HORIZON CIRCLE (FOR EXAMPLE, "NORTH"). TURN THE SKY MAP AROUND ITS CENTER (JUST AS YOU ARE DOING NOW) SO THE COMPASS DIRECTION THAT APPEARS ALONG THE BOTTOM OF THE MAP IS THE SAME AS THE DIRECTION THAT YOU FACE. BEGIN BY USING THE SKY MAP TO FIND A BRIGHT STAR PATTERN IN THE SKY.

Use the Big Dipper (or Plough) to help find Polaris, the North Star. The Northern Cross is a prominent feature of the constellation Cygnus (The Swan).

Virgo is high in the southern sky. It is the largest zodiac constellation and the second largest constellation in the sky.

Alphard means "solitary one" in Arabic, describing well its position in the sky.

The Big Dipper is a prominent star pattern in the constellation Ursa Major (The Great Bear). The outer circle is the horizon. Compass directions are indicated along the horizon circle (for example, "North"). Turn the sky map around its center (just as you are doing now) so the compass direction that appears along the bottom of the map is the same as the direction that you face. Begin by using the sky map to find a bright star pattern in the sky.

INSTRUCTIONS: THE SKY MAP SHOWS THE ENTIRE NIGHT SKY FROM HORIZON-TO-HORIZON AS IT APPEARS ON CERTAIN DATES AND TIMES. THE CENTER OF THE MAP IS THE PART OF THE SKY DIRECTLY OVERHEAD (ZENITH) AND THE OUTER CIRCLE IS THE HORIZON.

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY MAY 10 PM
LATE MAY 9 PM
(Add 1 Hour For Daylight Saving)

SKY MAP DRAWN FOR A LATITUDE OF 40° NORTH AND IS SUITABLE FOR LATITUDES UP TO 15° NORTH OR SOUTH OF THIS

Symbols

- Galaxy
- Double Star
- Variable Star
- Diffuse Nebula
- Planetary Nebula
- Open Star Cluster
- Globular Star Cluster

Star Magnitudes -1 0 1 2 3 4

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All sales support the production and free distribution of The Evening Sky Map.

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About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

Variable Star – A star that changes brightness over a period of time.

NORTHERN HEMISPHERE MAY 2014

CELESTIAL OBJECTS

Skymaps.com

Easily Seen with the Naked Eye

Capella	Aur	●	The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.
Arcturus	Boo	●	Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
Procyon	CMi	●	Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly.
δ Cephei	Cep	◉	Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.
Deneb	Cyg	●	Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly.
Castor	Gem	◍	Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	●	With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
α Herculis	Her	◉	Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion.
Regulus	Leo	●	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Vega	Lyr	●	The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.
Antares	Sco	●	Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly.
Polaris	UMi	◍	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.
Spica	Vir	●	Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

M44	Cnc	⁘	Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M3	CVn	⊕	Easy to find in binoculars. Might be glimpsed with the naked eye.
μ Cephei	Cep	◉	Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.
Mel 111	Com	⁘	Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=283 ly. Age=400 million years.
χ Cygni	Cyg	◉	Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days.
M39	Cyg	⁘	May be visible to the naked eye under good conditions. Dist=900 ly.
ν Draconis	Dra	◍	Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly.
M13	Her	⊕	Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly.
M92	Her	⊕	Fainter and smaller than M13. Use a telescope to resolve its stars.
R Hydrae	Hya	◉	Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.
ε Lyrae	Lyr	◍	Famous Double Double. Binoculars show a double star. High power reveals each a double.
R Lyrae	Lyr	◉	Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.
M12	Oph	⊕	Close to the brighter M10. Dist=18,000 ly.
M10	Oph	⊕	3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.
IC 4665	Oph	⁘	Large, scattered open cluster. Visible with binoculars.
6633	Oph	⁘	Scattered open cluster. Visible with binoculars.
M4	Sco	⊕	A close globular. May just be visible without optical aid. Dist=7,000 ly.
M5	Ser	⊕	Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.
Mizar & Alcor	UMa	◍	Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.
Cr 399	Vul	⁘	Coathanger asterism or "Brocchi's Cluster". Not a true star cluster. Dist=218 to 1,140 ly.

Telescopic Objects

ε Boötis	Boo	◍	Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
M67	Cnc	⁘	Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
M94	CVn	⌀	Compact nearly face-on spiral galaxy. Dist=15 million ly.
η Cassiopeiae	Cas	◍	Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".
5128	Cen	⌀	Bisected by a wide obscuring lane. Strong radio source. Dist=14 million ly.
M51	CVn	⌀	Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
M64	Com	⌀	Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".
Albireo	Cyg	◍	Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4".
61 Cygni	Cyg	◍	Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".
3242	Hya	✧	Ghost of Jupiter. Bright blue disk. Mag 11 central star. Dist=2,600 ly.
M83	Hya	⌀	Classic face-on spiral. Discovered in 1752 by Lacaille. In attractive star field.
γ Leonis	Leo	◍	Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Lyrae	Lyr	◉	Eclipsing binary. Mag varies between 3.3 & 4.3 over 12.940 days. Fainter mag 7.2 blue star.
M57	Lyr	✧	Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly.
M16	Ser	□	Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly.
M81	UMa	⌀	Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
M82	UMa	⌀	Close to M81 but much fainter and smaller.
M104	Vir	⌀	Sombrero Galaxy. Almost edge-on spiral galaxy. Protruding central core.
γ Virginis	Vir	◍	Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.
M27	Vul	✧	Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly.

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